Docket No.: 148263-1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
CHARLES STEVEN KORMAN et al.	)	Group Art Unit 1795
	)	Confirmation No. 5106
Serial No. 10/711,107	)	
	)	Examiner Alexander S. Tumminelli
Filed: August 24, 2004	)	
	)	
For: PHOTOVOLTAIC INTEGRATED	)	
BUILDING COMPONENT	)	Attorney Docket 148263-1

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on August 1, 2008, and is in furtherance of said Notice of Appeal.

Table of Contents

This Appeal Brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.02:

I. REAL PARTY IN INTEREST

The real party in interest for this Appeal is:

General Electric Company by way of an Assignment recorded at Reel/Frame 015233/0754 on October 8, 2004.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this Appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 28 Claims pending in application.

B. Current Status of Claims

1. Claims canceled: Claims 1-24.
2. Claims withdrawn from consideration but not canceled: None.
3. Claims pending: 25-52.
4. Claims allowed: None.
5. Claims rejected: 25-52.

C. Claims On Appeal

The Claims on Appeal are Claims 25-52.

IV. STATUS OF AMENDMENTS

No amendments to the Claims were filed subsequent to the final Office action dated April 1, 2008. The status of the amendments to the Claims prior to the final Office action is as follows:

A. Responsive to a non-final Office action dated September 24, 2007 and a Notice of Non-Compliant Amendment dated January 17, 2008, Appellant canceled Claims 1-24 and added Claims 25-52 on January 23, 2008.

B. Responsive to a final Office action dated April 1, 2008, Appellant filed a Request for Reconsideration on June 30, 2008.

C. Responsive to an Advisory Action dated July 31, 2008, Appellant timely filed a Notice of Appeal on August 1, 2008.

D. Responsive to a non-final Office action dated December 31, 2008, Appellant timely filed a second Notice of Appeal on March 30, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

By way of background, providing electricity through photovoltaic cells is becoming more popular as this technology has decreased in cost and reliance on other sources of electric power is increasingly disfavored for environmental and strategic reasons. However, providing a general use tile with electrical components that is easy to install and electrically connectable to other tiles without external wiring has been elusive. See *Paragraph [0001].*

Although photovoltaic cells come in a variety of forms, the most common structure is a semiconductor material into which a large-area diode, or p-n junction, has been formed. In terms of basic function, electrical current is taken from the device through a contact structure on the front that allows the sunlight to enter the solar cell and a contact on the back that completes the circuit. See *Paragraph [0003].*

Traditionally, a photovoltaic (PV) module is mounted onto a finished rooftop, e.g. a rooftop already covered with shingles or tiles. Installation usually requires the addition of brackets or other devices to which the modules are affixed that require a number of rooftop penetrations to provide anchoring. In some cases existing rooftop material is removed or reinstalled to accommodate the installation. This installation represents additional cost, and in many cases, substantial cost due to the special nature of the installation and the requirement for specially trained installers. Installation can represent 25-30% of the total installed system cost which limits widespread economic viability of PV in the residential and light commercial markets today. In addition to the high cost of installation, PV installation adversely affects the appearance of a rooftop since the "look and feel" of traditional PV modules with metal frames and glass surfaces is discontinuous with other roofing materials. Aesthetics is critical to home builders and home buyers alike. See *Paragraph [0005].*

Independent Claim 25 specifies, *inter alia*, a photovoltaic integrated building component comprising first solar cell laminate assembly (10) and a second solar cell laminate assembly (12). Each laminate assembly includes a backplane assembly (20) with a metal layer (42) disposed between a solar cell assembly and a polymer substrate (16). The component further includes a sealing member (14) with an electrical connector (52) in electrical contact with the metal layer (42) of the backplane assembly (20) to provide electrical interconnection between the first and second solar cell laminate assemblies (10, 12). See Paragraphs *[0022] – [0027], [0033]* and *[0034]* and Figures 1 and 4 below.

FIG. 1

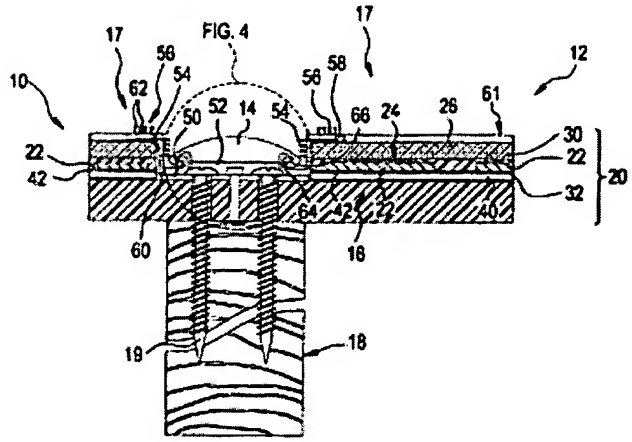
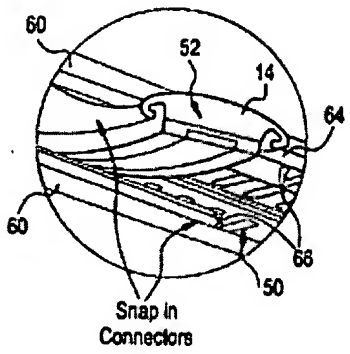


FIG. 4



Independent Claim 43 specifies, *inter alia*, a backplane assembly (20) disposed between each solar cell assembly (10, 12) and the polymer substrate (16), the backplane assembly including a metal layer (42) in electrical contact with the second side of each solar cell assembly, each solar cell laminate assembly including a frame (60) disposed about a periphery of each solar cell laminate assembly, a portion of the metal layer extending from the frame defining an edge connector (50), and a sealing member (14) that includes an electrical connector (52) in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies. See Paragraphs *[0032] and [0033]* and Figures 1 and 4 above.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether Claims 25-36, 43 and 48 are unpatentable under 35 U.S.C. §103(a) over Komori et al. (U.S. Patent No. 6,215,060, hereinafter "Komori") in view of Kukulka et al. (U.S. Published Application No. 2004/0089339, hereinafter "Kukulka").

2. Whether Claims 37-39, 42, 49 and 52 are unpatentable under 35 U.S.C. §103(a) over Komori in view of Kukulka, and further in view of Konold (U.S. Patent No. 6,630,622, hereinafter "Konold").

3. Whether Claims 40 and 50 are unpatentable under 35 U.S.C. §103(a) over Komori in view of Kulkulk and Konold, and further in view of Kawaguchi et al. (U.S. Patent No. 5,250,265, hereinafter "Kawaguchi").

4. Whether Claims 41 and 51 are unpatentable under 35 U.S.C. §103(a) over Komori in view of Kulkulka and Konold, and further in view of Kapany et al. (U.S. Patent No. 3,985,116, hereinafter "Kapany").

5. Whether Claims 45 and 47 are unpatentable under 35 U.S.C. §103(a) over Komori in view of Kukulka, and further in view of Gould et al. (U.S. Patent No. 4,273,106, hereinafter "Gould").

6. Whether Claims 44 and 46 are unpatentable under 35 U.S.C. §103(a) over Komori in view of Kukulka, and further in view of Kuwahara et al. (U.S. Patent No. 6,179,639, hereinafter "Kuwahara").

VII. ARGUMENT

1. Rejection of Claims 25-36, 43 and 48 under 35 U.S.C. §103(a) over Komori in view of Kukulka

Independent Claim 25 specifies, *inter alia*, a photovoltaic integrated building component in which each solar cell laminate assembly (12) includes the feature a backplane assembly (20) disposed between each solar cell assembly and the polymer substrate (16), the backplane assembly including a metal layer (42) in electrical contact with the second side of each solar cell assembly, and a sealing member (14) operably connected to the first and second solar cell laminate assemblies, the sealing member including an electrical connector (52) in electrical contact with the metal layer of the backplane assembly to provide electrical interconnection between the first and second solar cell laminate assemblies. (Emphasis Added).

FIG. 1

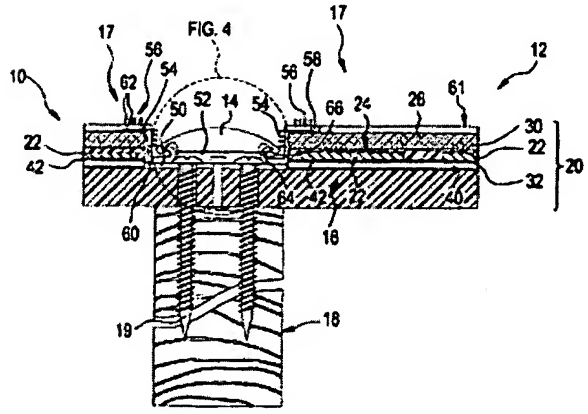
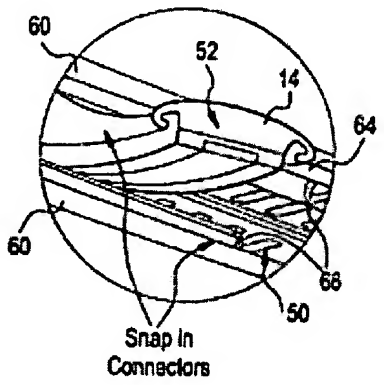


FIG. 4

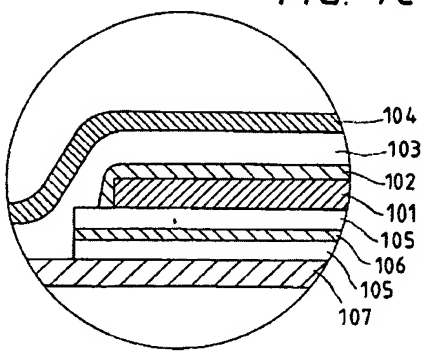


Independent Claim 43 specifies, inter alia, a photovoltaic integrated building component, comprising a backplane assembly (20) including a metal layer (42) in electrical contact with the second side of each solar cell assembly, each solar cell laminate assembly(10, 12) including a frame (60) disposed about a periphery of each solar cell laminate assembly, a portion of the metal layer extending from the frame defining an edge connector; and a sealing member (14) operably connected to the first and second solar cell laminate assemblies, the sealing member including an electrical connector (52) in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies. (Emphasis Added).

Komori teaches a method for manufacturing a solar cell module when a photovoltaic

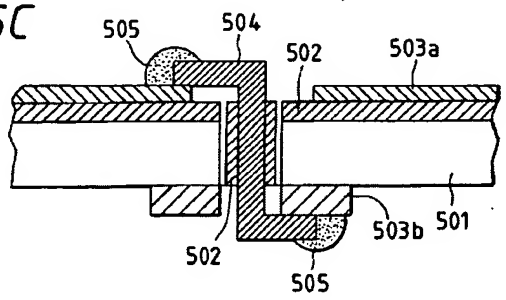
element is bent or curved. The solar cell module includes photovoltaic elements 101, a fibrous inorganic, compound 102, a transparent organic polymer compound as a front surface filler 103, a transparent resin film 104, a transparent, organic polymer compound as a back surface filler 105, a back surface insulating film 106 and a support member 107. *See Fig. 1C below; col. 4, lines 13-22.* The support member 107 is made of a galvanized iron sheet covered by an organic polymer resin, a plastic sheet, or an FRP (glass fiber reinforced plastic) sheet to provide weather resistance and rust resistance. *See col. 13, lines 40-50.*

FIG. 1C



Komori connects two solar cells by a copper tab 504 that connects a positive terminal 503a on the top surface of one solar cell to a negative terminal 503b on the bottom surface of an adjacent solar cell. *See Fig. 5C below; col. 14, lines 52-56.*

FIG. 5C



On *Page 4* of the Office action dated December 31, 2008, the Examiner states that Komori teaches the following:

> "each solar cell laminate assembly further including a backplane (107) assembly disposed between each solar cell assembly (101) and the polymer

> substrate (105)(Figure 1A & 1C), the backplane (107) assembly includes a metal layer (col. 13; lines 40-50); and a sealing member/copper tab (505/504) operably connected to the first and second solar cell laminate assemblies (col. 13; lines: 45-50), the sealing member including an electrical connector (504) in electrical contact with the metal layer of the backplane (107) assembly to provide electrical interconnection between the first and second solar cell laminate (101) assemblies as shown in Figure 5A-5C (col. 14; lines: 53-67). However, Komori et al does not explicitly teach that the backplane assembly provides an electrical interconnection between the first and second solar cell laminate assemblies."

The Examiner's assertion that Komori is identical to the claimed invention, except that Komori fails to explicitly teach that the backplane assembly provides an electrical interconnection between the first and second solar cell laminate assemblies is incorrect for several reasons.

First, Claims 25 and 43 recite that the metal layer of the backplane is in electrical contact with the electrical connector of the sealing member to provide electrical interconnection between the first and second solar cell laminate assemblies. In Komori, the support member 107 is made of a galvanized iron sheet that is covered by an organic polymer resin, a plastic sheet, or an FRP (glass fiber reinforced plastic) sheet to provide weather resistance and rust resistance. *See col. 13, lines 40-50.* Because the materials used by Komori to encapsulate the support member 107 are electrically insulating materials, the iron sheet can not be in electrical contact with the copper tab/solder 505/504, as asserted by the Examiner. Therefore, Komori does not teach at least the feature that the metal layer of a backplane assembly is in electrical contact with a sealing member to provide electrical interconnection between the first and second solar cell laminate assemblies, as recited in Claims 25 and 43.

Second, independent Claims 25 and 43 recite that the backplane assembly includes a metal layer in electrical contact with the second side of each solar cell assembly. Komori connects two solar cells by a copper tab 504 by connecting a positive terminal 503a on the top surface of one solar cell to a negative terminal 503b on the bottom surface of an adjacent solar cell. *See Fig. 5C above.* Thus, Komori teaches that the electrical connection is made on opposite sides of adjacent solar cells. On the other hand, the claimed invention is directed to a metal layer in electrical contact with the second side of each of the solar cell laminate assemblies, which is the same side of each of the solar cell assemblies.

Thus, contrary to the Examiner that all of the elements of Claims 25 and 43 are disclosed

in Komori, except for a backplane assembly providing an electrical interconnection between the first and second solar cell assemblies, at least the feature of a sealing member operably connected to the first and second solar cell laminate assemblies, the sealing member including an electrical connector in electrical contact with the metal layer of the backplane assembly to provide electrical interconnection between the first and second solar cell laminate assemblies, is not disclosed, taught or suggested in Komori.

For at least this reason, the Examiner fails to establish a *prima facie* of obviousness because the combination of Komori and Kukulka fails to teach or suggest all the claim limitations, as recited in Claims 25 and 43, so the rejection is unsupported by the art and should be reversed.

Appellant agrees with the Examiner that Komori does not explicitly teach that the backplane assembly provides an electrical interconnection between the first and second solar cell laminate assemblies. However, to overcome this shortcoming in Komori, the Examiner asserts that it would have been obvious to modify the solar cell assembly of Komori with Kukulka to meet the claimed invention. Appellant respectfully disagrees with this assertion.

Kukulka discloses a solar cell 22 that is protected by a by-pass diode structure 40 that includes a by-pass diode 42 at the back side 38 of the solar cell 22. See *Figs. 1 and 3-5*; *Paragraphs [0025], [0026], [0030] and [0032].*

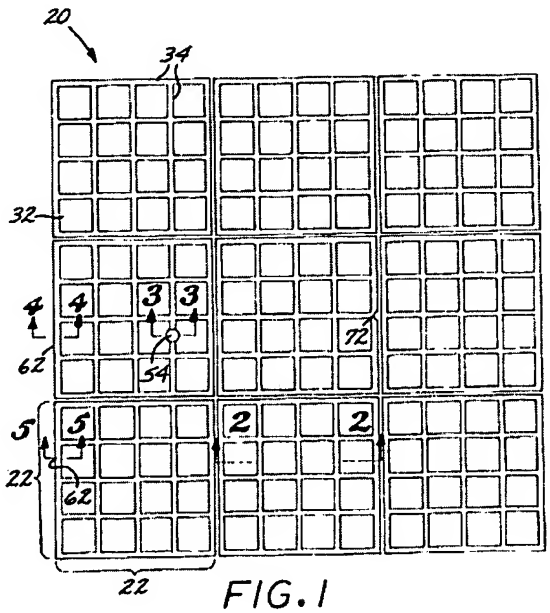


FIG. 1

FIG. 3

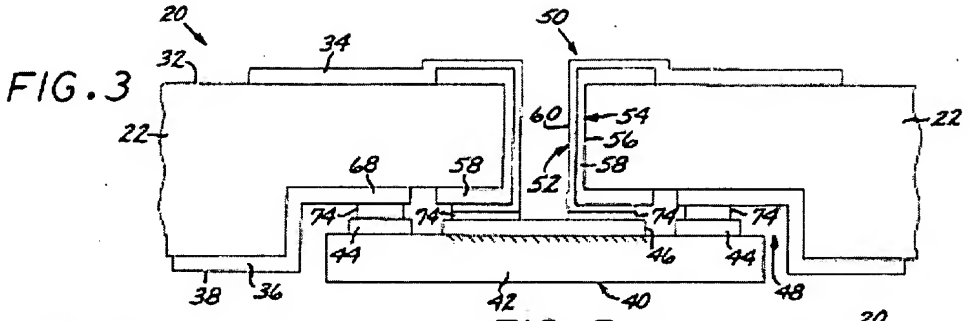


FIG. 4

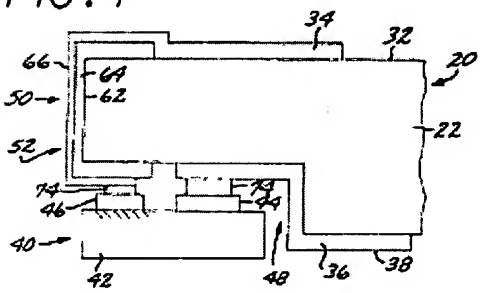
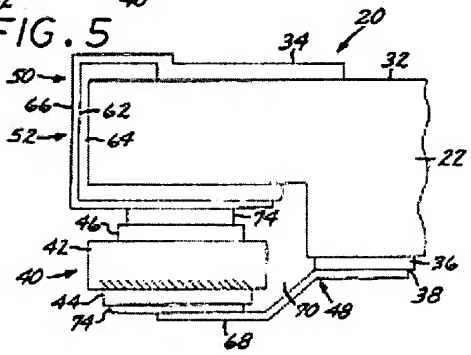


FIG. 5



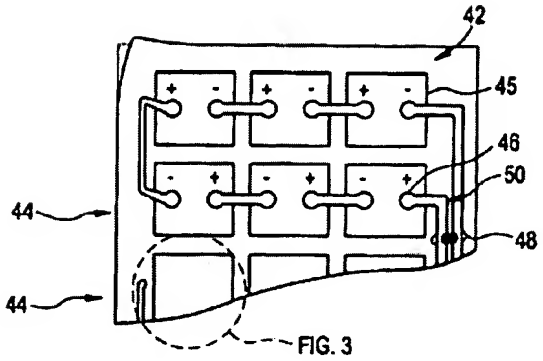
On *Page 4* of the Office action dated December 31, 2008, the Examiner asserts that Kukulka teaches the following:

> "a solar cell structure (abstract), that includes a backplane assembly (bypass diode structure, Fig. 3/40, that provides an electrical interconnection between the first and second solar cells (paragraphs [0028]-[0030])."

Appellant respectfully disagrees with this assertion. The claimed invention recites a backplane assembly (20) disposed between each solar cell assembly and the polymer substrate (16). In no way whatsoever can the bypass diode structure 40 of Kukulka be considered as being disposed between each solar cell assembly and a polymer substrate, as recited in the claimed invention. The backplane assembly of the claimed invention is positioned between the solar cell assembly and the polymer substrate to provide additional support for the solar cell assembly. Thus, the Examiner's assertion that the bypass diode structure 40 of Kukulka is equivalent to the backplane assembly of the claimed invention is incorrect.

It is noted that dependent Claim 35 recites a bypass diode that performs the same function as the bypass diode of Kukulka protect the solar cell during a reverse-bias condition, not the backplane assembly. See *Fig. 2 below; Paragraph [0030].*

FIG. 2



For at least this additional reason, the Examiner fails to establish a *prima facie* of obviousness because the combination of Komori and Kukulka fails to teach or suggest all the claim limitations, as recited in Claims 25 and 43, so the rejection is unsupported by the art and should be reversed.

2. Rejection of Claims 37-39, 42, 49 and 52 under 35 U.S.C. §103(a) over Komori in view of Kukulka, and further in view of Konold

Konold discloses a system for converting solar energy to thermal or electrical energy. A solar collector panel 100 includes a copper plate 403 between a Photovoltaic (PV) grid 201, a substrate 401 and a copper tubing heat exchanger 404. Foam insulation 405 lies between the copper tubing heat exchanger 404 and a bottom cover plate 406. *See Fig. 4; col. 4, lines 29-51.* A glass/plastic cover plate 408 is held in place by an overlying lip formed on the top of the side members of a frame 407. *See col. 5, lines 16-22.*

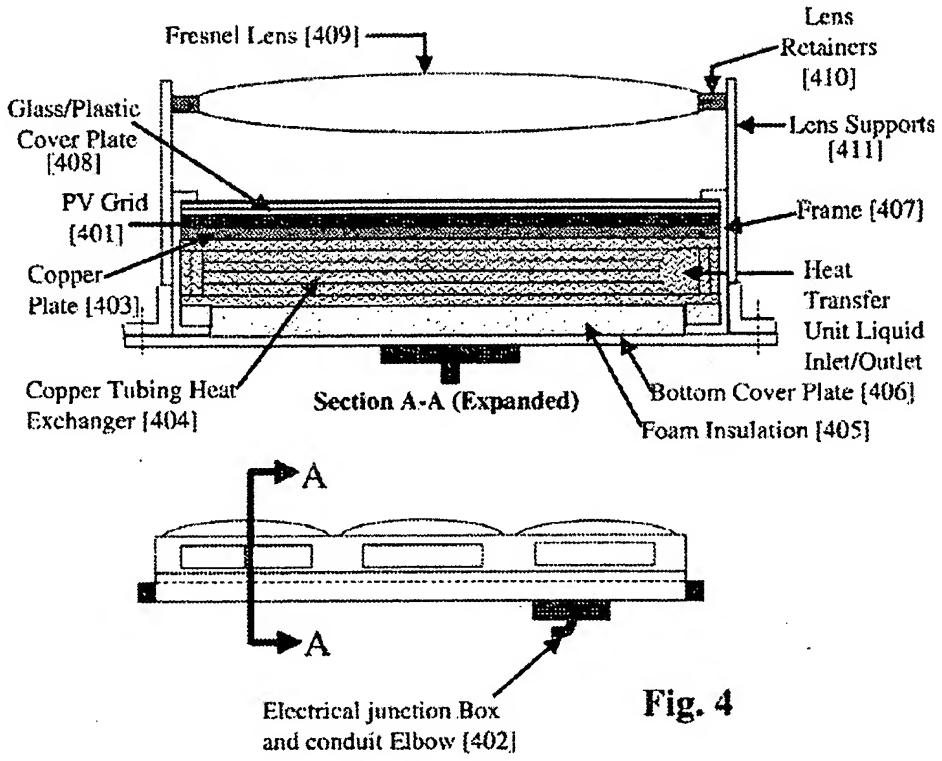


Fig. 4

Claims 37-39 and 42 depend from Claim 25, and Claims 49 and 52 depend from Claim 43. As stated in VII.1 above, there is no mention in Komori and Kukulka of a backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly, and a sealing member including an electrical connector in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies.

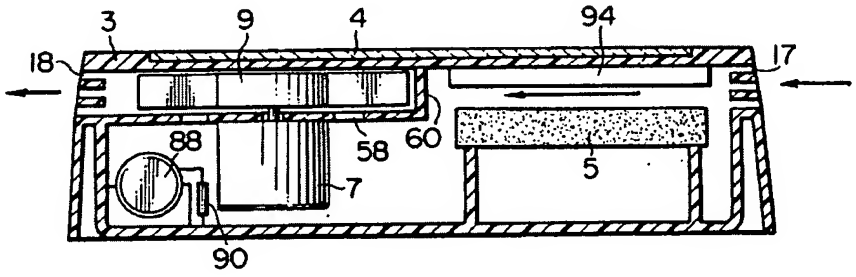
Konold adds nothing to overcome these shortcomings in Komori and Kukulka. Thus, the combination of Komori, Kukulka and Konold does not disclose, teach or suggest all the claim limitations, as recited in Claims 25 and 43. For at least reason, the Examiner fails to establish a *prima facie* case of obviousness, so the Examiner's rejection of Claims 37-39, 42, 49 and 52 should be withdrawn.

3. Rejection of Claims 40 and 50 under 35 U.S.C. §103(a) over Komori in view of Kukulka and Konold, and further in view of Kawaguchi

Kawaguchi discloses a deodorizer including a cover 3 on which a solar cell 4 is installed.

The cover includes a plurality of cooling fins 94 to enhance the cooling of the solar cell 4. *See Fig. 39; col. 12, lines 44-56.*

FIG. 39



Claim 40 depends from Claim 25, and Claim 50 depends from Claim 43. As stated in VII.2 above, there is no mention in Komori, Kukulka and Konold of a backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly, and a sealing member including an electrical connector in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies, as recited in Claims 25 and 43.

Kawaguchi adds nothing to overcome these shortcomings in Komori, Kukulka and Konold. Thus, the combination of Komori, Kukulka, Konold and Kawaguchi does not disclose, teach or suggest all the claim limitations in Claims 25 and 43. For at least this reason, the Examiner fails to establish a *prima facie* case of obviousness, and the Examiner's rejection of Claims 40 and 50 should be withdrawn.

4. Rejection of Claims 41 and 51 under 35 U.S.C. §103(a) over Komori in view of Kukulka and Konold, and further in view of Kapany

Kapany discloses a solar panel including a window panel portion 10 and a heat absorbing portion 12. The heat absorbing portion 12 includes a tapered honeycomb structure 56 embossed directly on the upper face of a top panel 58 of the heat exchanger 14. The embossed honeycomb structure 56 provides multiple bounce absorption of the incident light ray transmitted through the window portion 10. The ideal absorber has a high absorptivity in the wavelength range of 0.3 to

2 microns and a low emissivity in the wavelength range of approximately 10 microns. *See Fig. 1; col. 4, lines 20-22; col. 8, lines 39-58.*

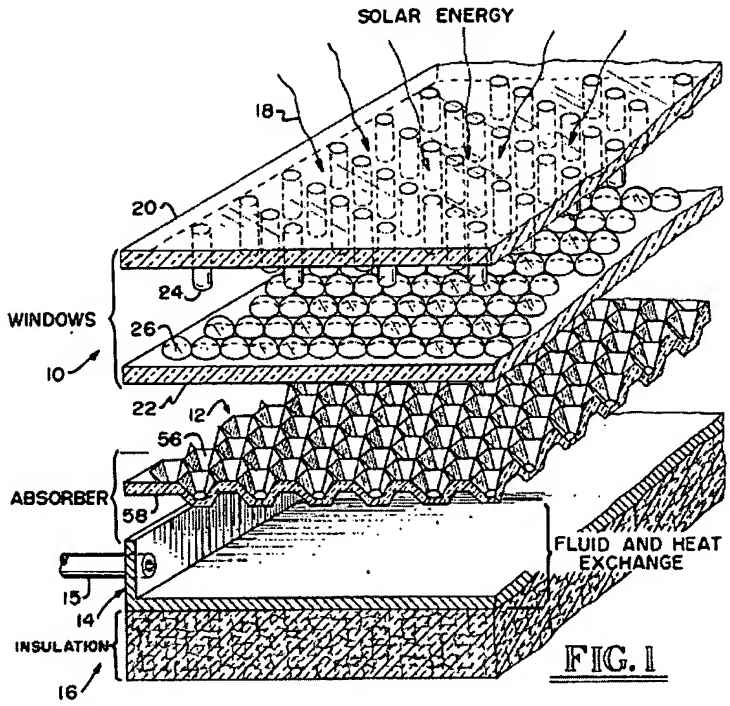


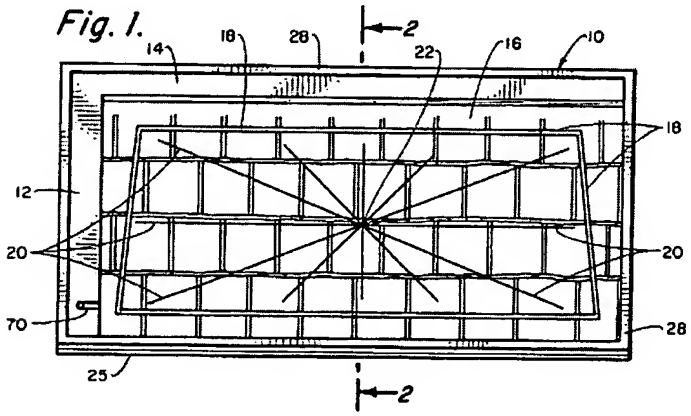
FIG. 1

Claim 41 depends from Claim 25, and Claim 51 depends from Claim 43. As stated in VII.2 above, there is no mention in Komori, Kukulka and Konold of a backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly, and a sealing member including an electrical connector in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies, as recited in Claims 25 and 43.

Kapany adds nothing to overcome these shortcomings in Komori, Kukulka and Konold. Thus, the combination of Komori, Kukulka, Konold and Kapany does not disclose, teach or suggest all the claim limitations in Claims 25 and 43. For at least this reason, the Examiner fails to establish a *prima facie* case of obviousness, and the Examiner's rejection of Claims 41 and 51 should be withdrawn.

5. Rejection of Claims 45 and 47 under 35 U.S.C. §103(a) over Komori in view of Kukulka and Gould

Gould discloses a mold 10 and a groove or recess 18 around the mold 10 for installation of an O-ring seal for sealing the surface of the solar panel insert to the interior surface 16 of the mold 10. *See Fig. 1; col. 4, lines 13-22.*



Claim 45 and 47 depend from Claim 43. As stated in VII.2 above, there is no mention in Komori and Kukulka of a backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly, and a sealing member including an electrical connector in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies, as recited in Claim 43.

Gould adds nothing to overcome these shortcomings in Komori and Kukulka. Thus, the combination of Komori, Kukulka and Gould does not disclose, teach or suggest all the claim limitations in Claim 43. For at least this reason, the Examiner fails to establish a *prima facie* case of obviousness, and the Examiner's rejection of Claims 45 and 47 should be withdrawn.

6. Rejection of Claims 44 and 46 under 35 U.S.C. §103(a) over Komori in view of Kukulka and Kawahara

Kawahara discloses a plug-side connector member C1 having a cylindrical housing 1 accommodating a male plug terminal 2, and a socket-side connector member C2 having a cylindrical housing 3 accommodating a female socket terminal 4.. *See Fig. 7; col. 1, lines 13-18.*

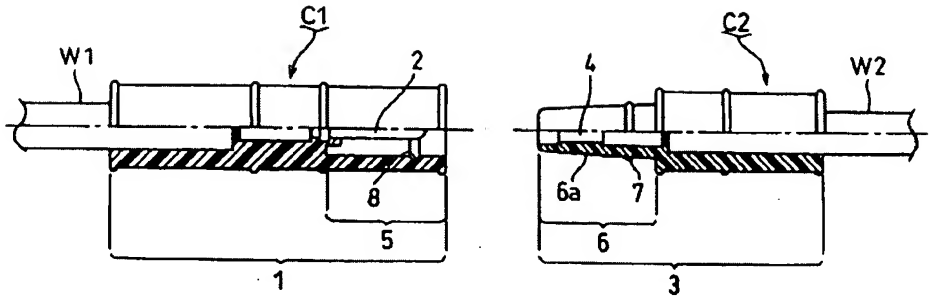


FIG. 7

(PRIOR ART)

Claim 44 and 46 depend from Claim 43. As stated in VII.2 above, there is no mention in Komori and Kukulka of a backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly, and a sealing member including an electrical connector in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies, as recited in Claim 43.

Kuwahara adds nothing to overcome these shortcomings in Komori and Kukulka. Thus, the combination of Komori, Kukulka and Kuwahara does not disclose, teach or suggest all the claim limitations in Claim 43. For at least this reason, the Examiner fails to establish a *prima facie* case of obviousness, and the Examiner's rejection of Claims 45 and 47 should be withdrawn.

In view of the foregoing, Appellant respectfully submits that the application is in condition for allowance. Favorable consideration and prompt allowance of the application is earnestly solicited.

Dated: May 20, 2009

Respectfully submitted,

By /Peter J. Rashid/

Peter J. Rashid, Reg. No. 39464

VIII. CLAIMS APPENDIX

25. A photovoltaic integrated building component, comprising:

a polymer substrate;

a first solar cell laminate assembly and a second solar cell laminate assembly disposed over the polymer substrate, each solar cell laminate assembly including a solar cell assembly, each solar cell assembly having a first side for receiving photons and a second side for producing an electrical current, each solar cell laminate assembly further including a backplane assembly disposed between each solar cell assembly and the polymer substrate, the backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly; and

a sealing member operably connected to the first and second solar cell laminate assemblies, the sealing member including an electrical connector in electrical contact with the metal layer of the backplane assembly to provide electrical interconnection between the first and second solar cell laminate assemblies.

26. The component according to Claim 25, wherein the sealing member is operably connected to the first and second solar cell laminate assemblies by a snap-fit feature for engaging a snap-fit feature of the first and second solar cell laminate assemblies.

27. The component according to Claim 25, wherein the polymer substrate is capable of being directly attached to a rafter of a building structure.

28. The component according to Claim 25, wherein the polymer substrate is capable of being directly attached to a batten of a building structure.

29. The component according to Claim 25, further comprising an encapsulant for encapsulating each solar cell assembly.

30. The component according to Claim 29, further comprising a glass substrate disposed over the encapsulant.

31. The component according to Claim 25, wherein the backplane assembly further includes an insulating substrate disposed between the polymer substrate and the metal layer.

32. The component according to Claim 25, wherein each solar cell assembly comprises a plurality of silicon wafers.

33. The component according to Claim 32, wherein the plurality of silicon wafers are mounted on a polymer flex substrate.

34. The component according to Claim 33, wherein electrical current produced by each silicon wafer is transported to an edge connector of the metal layer by an interconnect pattern in a series string.

35. The component according to Claim 34, wherein the series string includes a diode for allowing a failed series string to be bypassed.

36. The component according to Claim 34, wherein the edge connector includes a conductive extension that extends normal to the polymer substrate along a periphery of the first and second solar cell laminate assemblies.

37. The component according to Claim 25, further comprising a plastic frame disposed about a periphery of the first and second solar cell laminate assemblies.

38. The component according to Claim 37, further comprising a heat sink assembly in thermal communication with the conductive extension for dissipating heat from the first and second solar cell laminate assemblies.

39. The component according to Claim 38, wherein the heat sink assembly is embedded in the plastic frame.

40. The component according to Claim 38, wherein the heat sink assembly comprises cooling fins insert molded with the plastic frame.

41. The component according to Claim 38, wherein the heat sink assembly comprises a high emissivity layer molded in the plastic frame.

42. The component according to Claim 38, wherein the plastic frame includes a keyed channel for facilitating attachment of the component to a batten of a building structure.

43. A photovoltaic integrated building component, comprising:

a polymer substrate;

a first solar cell laminate assembly and a second solar cell laminate assembly disposed over the polymer substrate, each solar cell laminate assembly including a solar cell assembly, each solar cell assembly having a first side for receiving photons and a second side for producing an electrical current, each solar cell laminate assembly further including a backplane assembly disposed between each solar cell assembly and the polymer substrate, the backplane assembly including a metal layer in electrical contact with the second side of each solar cell assembly, each solar cell laminate assembly including a frame disposed about a periphery of each solar cell laminate assembly, a portion of the metal layer extending from the frame defining an edge connector; and

a sealing member operably connected to the first and second solar cell laminate assemblies, the sealing member including an electrical connector in electrical contact with the edge connector extending from the frame of each solar cell laminate assembly to provide electrical interconnection between the first and second solar cell laminate assemblies.

44. The component according to Claim 43, further comprising an electrical buswork connected to the male electrical connector for providing a conduit for generated power from each solar cell assembly.

45. The component according to Claim 43, wherein each solar cell laminate assembly includes a channel for receiving an O-ring for providing a seal between the sealing member and each solar cell laminate assembly.

46. The component according to Claim 43, wherein the first electrical connector comprises a female electrical connector, and wherein the second electrical connector comprises a male electrical connector.

47. The component according to Claim 43, further comprising a fastener for biasing the sealing member towards each solar cell laminate assembly to provide a seal therebetween.

48. The component according to Claim 43, further comprising an indicating means for providing a visual indication of the electrical interconnection between the first and second solar cell laminate assemblies.

49. The component according to Claim 43, wherein a heat sink assembly is embedded in the plastic frame.

50. The component according to Claim 49, wherein the heat sink assembly comprises cooling fins insert molded with the plastic frame.

51. The component according to Claim 49, wherein the heat sink assembly comprises a high emissivity layer molded in the plastic frame.

52. The component according to Claim 43, wherein the plastic frame includes a keyed channel for facilitating attachment of the component to a batten of a building structure.

IX. EVIDENCE APPENDIX

No evidence pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 is/are entered by the Examiner. Accordingly, no evidence is/are relied upon by the Appellant in this paper.

X. RELATED PROCEEDINGS APPENDIX

No related proceedings pursuant to 37 C.F.R. § 41.37(c)(1)(ii) is/are entered by, relied upon, or submitted by the Appellant with this paper.